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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,480	07/16/2003	Yukiteru Matsui	04329.3098	7368

7590 07/27/2004

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EXAMINER

NGUYEN, DUNG V

ART UNIT PAPER NUMBER

3723

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/619,480

Applicant(s)

MATSUI ET AL.

Examiner

Dung V Nguyen

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,7-13 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 3-6 and 14-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7/16/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2, 7, 8, 10-13, 18 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Mueller et al (USPN 6,435,947). Mueller et al discloses a method of manufacturing a semiconductor wafer comprising polishing a surface of a semiconductor wafer with a polishing member with a fluid interposed between the polishing member and the surface of the semiconductor wafer while performing light irradiation onto the polishing member, the polishing member comprising photocatalyst particles that exhibit photocatalysis on the light irradiation and a support material that supports the photocatalyst particles, inorganic particles that are support by the support material together with the photocatalyst particles and contain one material including alumina, silica or ceria, wherein the photocatalyst particles contain one compound including titanium oxide or niobium oxide, wherein particles diameter of the photocatalyst particles is less than 1 micron, wherein the fluid consists of essentially of water, wherein the light irradiation includes irradiating the polishing member with

ultraviolet light (note col. 3, lines 50-62, col. 6, line 42 to col. 13, line 67, col. 13, line 60 to col. 18, line 33).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 9 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mueller et al (USPN 6,435,947). Mueller et al discloses the claimed invention as described above, however, Mueller et al does not disclose that a concentration of the photocatalyst particles in the member falls within a range of 10% by volume to 90% by volume. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select a concentration of the photocatalyst particles in the member falls within a range of 10% by volume to 90% by volume, since it has been held that where the general conditions of a claim is disclosed in the prior art, discovering the optimum range or workable range involved only routine skill in the art. *In re Aller*, 105 USPQ 233.

***Allowable Subject Matter***

5. Claims 3-6 and 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

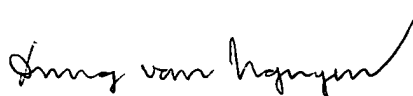
6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grumbine et al is cited to show a polishing pad including catalyst particles.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung V Nguyen whose telephone number is 703-305-0036. The examiner can normally be reached on M-F, 6:30-3:00.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J Hail can be reached on 703-308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DVN  
July 23, 2004

  
**DUNG VAN NGUYEN**  
**PRIMARY EXAMINER**